

The US caving community has been buzzing about the newly created National Cave and Karst Research Institute. The first director of this organization is a very prominent NSS caver.

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**Please tell me about your new government caving position, based in Carlsbad, New Mexico.**

I have the immense privilege of serving as the first permanent Director of the National Cave and Karst Research Institute. The U.S. Congress tasked the National Park Service with establishing the Institute in Carlsbad, New Mexico. After several years of incipient development within the current Park Service structure, the NPS hired me to move it forward as a new and less traditional entity. The legislative language requires the Institute to be at least 50% non-federally funded and that another partner join the NPS in administering it. A large part of my job is to bring the broad cave and karst community together to figure out where the non-federal funding will come from, who the other partner will be, and how we will operate. I believe the cave and karst community has an incredible opportunity to quickly advance cave and karst research, education, and management by pulling together in this effort. I want to ensure that everyone has a chance to contribute.

### How did you start caving?

I joined the university outings club at California State University, Los Angeles as a freshman. My interests focused on backpacking and hiking at that time. I attended a caving trip to Church Cave as my first weekend trip with them only because I wanted to get to know the club members. I had never been in a cave at all and I had no real interest in doing so. But, once in the cave, I was completely hooked and my life changed forever. Some of the guys in the university club, recognizing my immediate passion for caving, made sure I got into the Southern California Grotto the next month. At my first grotto meeting, I heard stories about how many of the most active cavers were off caving in Mexico. The next month, they showed their slides of places like Golondrinas, told their stories of chopping through the jungle, and I made Mexico my goal. Everything only cascaded from there.

**I saw your photograph in a recent issue of National Geographic magazine, caving in Oman, what led to that expedition?**

Actually, three trips. It started with Dr. Farouk El Baz of Boston University contacting me because he had read of my work at Cueva de Villa Luz. Dr. El Baz regularly works with the Omanis on water issues and they had asked him to find an American cave expert to work with them on some cave issues related to tourism. I sent a vitae, which they liked, and they invited me to visit in June 2000. Cave of the Winds owner Grant Carey and caver/businessman Dave Lester accompanied me. We wrote a report for the Omanis on some of their caves and included the suggestion that magazines like National Geographic might be interested in doing an article. They pursued that possibility through their contacts at National Geographic and, at the Omanis' request, I also pursued it, mostly through Stephen Alvarez. Stephen and I had worked together twice in the past on Villa Luz articles. National Geographic signed on and I led two more trips in August 2001 and January 2002, which were financed by a combination of National Geographic and Omani Directorate General of Tourism funds.

**The "alien environment" cave in Mexico, that's become a centerpiece of your caving career, hasn't it?**

It is certainly the work that has drawn the most attention. The demands of working at the cave suit my personal strengths and the cave itself is a real media draw. I spent most of my 30+ year caving career trying to stay low profile but Villa Luz provides such a unique opportunity to make positive statements. The cave is extraordinarily high energy and recovers incredibly fast from impact. Plus, it was already a tourist cave of sorts before I ever visited it, minimizing many of our usual fears about potential cave destruction by inadvertently increasing visitation. The captivating scientific research on a robust ecosystem living in a highly acidic world and without sunlight has allowed us to participate in broad, international science education efforts. By complete chance, our research team is more than half female and that provides us opportunities to serve as positive role models for girls learning about the field sciences. Fortunately, nearly all of the media attention to the cave and to me has focused on the science. I have sent elsewhere the few requests that started with something like "We want to show the most dangerous caving in North America."

### Where all have you been caving?

The majority of my caving has been throughout Mexico and in places "we don't speak of" in the Southwestern U.S. My major work in Mexico has been in Tamaulipas



(Purificacion, where I did my MSc thesis), Oaxaca (Cheve), and Tabasco (Villa Luz). I started in California and have caved a little throughout the U.S. Foreign caving expeditions include Oman, Papua New Guinea, Greece, and England, plus commercial caves in Austria and South Africa.

**Besides hardcore caving, you've also participated in speleo-politics. What's been your involvement in that sphere?**

I served on the NSS Board of Governors for two terms. I have also been an officer for the Southern California, Escabrosa, and Southern Colorado Mountain Grottos. If committees are "speleo-politics," I have served on the NSS Safety and Techniques, *American Caving Accident*, *Journal of Cave and Karst Studies*, Education, Awards, and the 1996 & 2003 Convention Committees. The NSS has truly changed my life in many positive and fundamental ways and I have tried to give back to the Society through these activities. I believe anyone who cares about caves and our community has a deep responsibility to also give service during their career. "Speleo-politics" and committee service has been one way I have tried giving back to the NSS, the caves, and the broader cave and karst community in return for the incredible amount of opportunities, pleasure, and satisfaction they have given me. I hope my new position as Director of the National Cave and Karst Research Institute will lead to many more opportunities to continue practicing that philosophy and sharing it with others.

**How do you see the Institute interfacing with organizations such as the NSS and**

**other cave/karst groups? What benefits can we expect for the caving world and why was it established?**

Although karst constitutes about 20% of the United States' surface and impacts about 40% of our groundwater supply, funding and attention towards karst research and education has never matched its importance. Our researchers tend to be spread out in one- or two-person programs, largely at non-PhD-granting colleges and universities. Look where some of the top NSS scientists hang their lab coats: the Palmers and Lavoie at SUNY, Sasowsky at University of Akron, Hobbs at Wittenburg University, Crawford and Groves at Western Kentucky University, Macfarlane at Claremont, Mylroie at Mississippi State, and Culver and Fong at American University. All of these schools expect heavy teaching loads from their faculty and none have the support of PhD graduate students or most of the amenities of research institutions. It is amazing to see the work these folks produce. There are also outstanding, professionally unaffiliated, and even non-degreed, scientists in the NSS who rarely have the opportunity to fully exercise their abilities. NSS education and outreach programs are run by dedicated volunteers with minimal funding and, generally, no substantial institutional support. I believe the Institute, with a professional staff devoted to cave/karst research, education, and knowledge transfer, can substantially strengthen these mostly independent and under-funded efforts into a more cohesive structure. I see the Institute as providing the solid "setting" or foundation to help these and other independent programs thrive.

The other large group of karst researchers in the country are government scientists and land managers. The land managers have often come from the caving community and there has been significant communication between the National Park Service, US Forest Service, Bureau of Land Management, and NSS and CRF researchers. But, other government researchers have communicated less with the mainstream of the international cave and karst community. The collaborative structure of the Institute, a partnership of government and non-government entities, should help bridge the gaps between the knowledge gained in the NSS/CRF world and the USGS/EPA/etc. world.

The New Mexico Tech "wing" of the Institute is currently working hard on a grant proposal that would yield, if successful, about \$4 million/year for 10 years to support cave/karst research, formal higher education, and knowledge transfer. Although our chances of scoring such a grant at this point in our development may be small, the effort has been a great experience in exploring the possibilities of the Institute. I think our whole community is starting to envision the sort of "big science" and extensive public outreach

programs that we might accomplish as a coalition with a professionally staffed core Institute to help carry the momentum. We are beginning to dream of important endeavors that seemed beyond the capacity of our community before the Institute came along and offered to provide the cement to hold the wonderful individual programs together.

**What is the current status of the Institute and what are your goals for the next three to five years?**

Four major issues will drive my efforts over the next few years: 1) Working with the broad cave/karst community (governmental, academic, non-profit organizations, industry, etc.) to establish the vision and operating philosophy of the Institute; 2) Work with the City of Carlsbad and other interested parties to design, construct, and outfit the headquarters building; 3) Develop more non-federal funding sources, which is our only way of raising our federal funding; and 4) Increase the Institute staffing, as funding allows.

**As director, what is your vision for the Institute short and long-term and how do you plan to achieve these goals? Do you feel your background gives you any special insight or edge in your position and give an example of how it makes a difference?**

I want the Institute to grow into a broad coalition of diverse groups that work at all scales, from single cave systems to international issues. I believe the Institute can help strengthen most cave/karst programs through collaboration. In the short term, I expect the Institute to mostly serve as a clearinghouse and to provide a cohesive, accountable administrative center for projects. Once our building is completed, we will become a major archive, cave/karst library, and database center. By that time, I also expect the Institute to have a strong presence in other geographic locations, such as on our partner college and university campuses.

In two to three years, I hope the Institute will start to serve as a research home for scientists. I envision the Institute, whether in Carlsbad or at various partner facilities around the country, providing office and lab space and administrative support for visiting foreign scientists, post-docs, otherwise unaffiliated but distinguished scientists, and faculty on summer or sabbatical leaves.

One thing I think anyone has to admit is that my background is diverse. I started as a caver, and still think of myself as primarily a caver, but I have the academic credentials and university teaching/research experience appropriate for running a national research and education laboratory. I've lived many years in the South, Midwest, and West, and

traveled extensively. I already know leaders in all of the U.S. cave and karst communities, and many of the international players. I have strong teaching and public outreach experience. My biggest lacking is significant experience with the federal culture, but I have people around me quick to help in that area. Since we want the Institute to comprise the broad extent of the cave/karst community, I think I fit the role well. And, I just love both my job and the community of Carlsbad. What a fantastic place to live! What an incredible job!

**What do you see as your biggest challenges in establishing the Institute?**

I see two big challenges. Most people in our community, both federal and non-federal, are open-minded, creative, and excited at the prospect of forming something different: a broader coalition that will prove a more effective unit than our individuals programs have provided in the past. Right now, the biggest challenge is overcoming the preconceptions of some individuals who expected the Institute to be a federally dominated entity, controlled by federal administrators and focused only on federal issues. Interestingly, this perception towards the Institute comes from at least two directions. A small group of federal folks see this model as highly desirable while some non-federal folks promote this vision of the Institute as a reason to avoid working with us. But, I am already seeing this narrow view of the Institute dissolve as people begin to realize the potential power of strong partnerships.

The other, continuing challenge will undoubtedly be obtaining the non-federal funds essential to grow the Institute. So far, that has not been an issue because the State of New Mexico and the City of Carlsbad have stepped up and provided extremely generous starting funds. However, this will be a national Institute. It will need – and we are actively seeking — national support.